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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,058	04/27/2001	Ian Cooper	D1815-00025 DIV1	3991

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EXAMINER

RUDDOCK, ULA CORINNA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 08/30/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/844,058

Applicant(s)

COOPER ET AL.

Examin r

Ula C Ruddock

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-- The MAILING DATE of this communicati n appears n the cover sheet with the correspondence address --
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 27 April 2001 .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.5 . 6) ☐ Other: _____ .

DETAILED ACTION

Restriction/Election

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10, drawn to a reinforcement for cementitious boards, classified in class 442, subclass 42.
 - II. Claims 11-13, drawn to cementitious boards, classified in class 52, subclass 454.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as mutually exclusive species in an intermediate-final product relations. Distinctness is proven for claims in this relation if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful by itself or as an adhesive tape backing and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 (a) of the other invention.

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3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Melanie Goddard on August 14, 2002, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

6. The information disclosure statement filed April 27, 2001, has been considered.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

8. Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Cho et al. (US 6,183,835). Cho et al. disclose a reinforced fiber sheet for use in reinforcing concrete structures.

The substrate is a net-shaped fabric formed by cross-arranging organic or inorganic fiber strands and impregnating them with thermoplastic resins (abstract). The inorganic fibers can be glass fiber (col 3, ln 64-66) and the thermoplastic resins can be polyolefins (col 4, ln 15-21).

9. Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b), as being anticipated by Porter et al. (US 5,763,043). Porter et al. disclose an open grid fabric for reinforcing wall systems (abstract).

The strands of the open grid fabric can be coated with a resin that confers properties to the reinforcement fabric such as alkali resistance (col 5, ln 54-67). Polyvinylidene chloride is an

example of a resin used on the fabric (col 6, ln 11-14). The rovings can be fiberglass (claim 10).

Furthermore, the term rovings refers to bundles of filaments (col 4, ln 13-15). Preferably, there are 1.5 ends to 12 ends per inch in each of the warp and weft directions (col 7, ln 9-15). The warp and weft strands have a linear density of 33 to 2200 Tex (col 7, ln 16-18).

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10. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Newman et al. (US 6,054,205). Newman et al. disclose a glass fiber facing sheet for engineered surfaces such as cement boards. The glass fiber facing sheet comprises an open mesh glass scrim (abstract). The transverse yarns and the longitudinal yarns of the glass scrim are bonded at their crossover points by a polymeric binder (col 5, ln 33-38). The open mesh glass scrim is formed by a plurality of intersecting, continuous multifilament glass yarns (col 4, ln 52-54). It should be noted that the Examiner is equating the multifilament glass yarns of Newman et al. to be the same as the bundled glass fibers disclosed in the present invention in claim 6. With regard to claims 2 and 3, typically, the coating is hardened on the scrim by heating the coated glass scrim to set the polymeric binder that would inherently fuse the thermoplastic material at areas where the yarns intersect and would also provide a continuous coating of the thermoplastic material on the yarns. With regard to claim 4, the polymeric binder is an alkali resistant thermoplastic polymer (col 5, ln 46-47), such as polyvinylidene chloride (col 5, ln 54-56). With regard to claim 5, the scrim has a pick count of 10 by 10, or 10 strands per inch in each direction (col 5, ln 25-27).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. (US 6,054,205), as set forth above. Newman et al. disclose the claimed invention except for the teaching that the mesh is no greater than about 0.020 inch in thickness. It should be noted that changing the mesh thickness is a result effective variable. An increase in mesh thickness directly affects the strength of a mesh. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used a scrim having a mean thickness of no greater than about 0.020 inch in thickness since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have optimized the thickness of the mesh, motivated by the desire to obtain a mesh with increased strength.

13. Claim 6 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Newman et al. (US 6,054,205), as set forth above, in view of Porter et al. (US 5,763,043). Newman et al. disclose the claimed invention except for the specific teaching that the strands have a linear density of about 33 to about 300 tex. Porter et al. (US 5,763,043) disclose an open grid fabric for reinforcing wall systems (abstract). The strands of the open grid fabric can be coated with a resin that confers properties to the reinforcement fabric such as alkali resistance (col 5, ln 54-67). Polyvinylidene chloride is an example of a resin (col6, ln 11-14). The rovings can be fiberglass (claim 10). Preferably, there are 1.5 ends to 12 ends per inch in each of the warp and weft directions (col 7, ln 9-15). The warp and weft strands have a linear density of 33 to 2200 Tex (col 7, ln 16-18). It would have been obvious to one having ordinary skill in the art to have used Porter's glass strands

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with a linear density of 33 to 2200 Tex in place of Newman's glass yarns, motivated by the desire to obtain a fiber facing sheet with increased durability and strength.

14. Claim 8 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Newman et al. (US 6,054,205), as set forth above, in view of Paulson et al. (US 6,171,984). Newman et al. disclose the claimed invention except for the specific teaching that the thermoplastic material is fibrous. Paulson et al. (US 6,171,984) disclose geosynthetic materials that can be used for earthen reinforcement (abstract). The fibers comprising with warp and/or weft strands can include fibers formed from inorganic and polymeric materials (col 9, ln 11-14). Polymeric materials can be polyolefins (col 9, ln 27) and inorganic materials can be glass fibers (col 10, ln 5-6). Furthermore, one or more warp strands, weft strands, or both, may be formed from strands wherein each strands is comprised of a combination of two or more materials, for examples a strands comprised of both polymeric fibers and non-polymeric fibers (col 10, ln 28-64). Where the polymeric fibers and non-polymeric fibers are dispersed unevenly throughout the strands, either may form a core material surrounded by the other. In other words, the non-polymeric ,e.g. glass strands, may be grouped to formed a core material with the polymeric strands disposed about the core material (col 11, ln 1-6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used Paulson's teaching of glass strands forming a core with polymeric strands disposed about the core materials on the glass fiber facing sheet of Newman et al. having a thermoplastic binder coated upon it, motivated by the desire to obtain a glass fiber facing sheet with improved resistance to chemical degradation.

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15. Claim 9 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Newman et al. (US 6,054,205), and Paulson et al. (US 6,171,984), as applied to claim 8 above, and further in view of Fangeat et al. (US 4,967,548) or Hourahane (US 6,335,087). Newman et al. and Paulson et al. disclose the claimed invention except for the specific teaching that fibrous thermoplastic material is friction spun on said strands.

Fangeat et al. (US 4,967,548) disclose a yarn comprising a core consisting of an inorganic filaments surrounded by fibers (abstract) via an open end spinning process (col 2, ln 24). Glass monofilaments are used as the core (col 2, ln 51). It should be noted that it is well known in the textile art that open end spinning is equivalent to the friction spinning process of the present invention. Hourahane (US 6,335,087) disclose a yarn for use in a cement mortar matrix that includes a core and a multitude of staple fibers forming a layer which envelopes the core (abstract). The surface layer of staple fibers is preferably supplied to the high tenacity core by the process known as friction spinning (col 3, ln 47-50). It would have been obvious to one having ordinary skill in the art to have used the friction spinning process disclosed by Fangeat et al. or Hourahane on Newman's and Paulson's coated glass scrim, motivated by the desire to obtain a glass scrim with increased flexibility.

16. Claim 10 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Newman et al. (US 6,054,205), as set forth above, in view of Boissonnat et al. (US 5,451,355). Newman et al. disclose the claimed invention except for the specific teaching that the thermoplastic material is co-extruded with the glass strands to provide a continuous coating about said strands. Boissonnat et al. (US 5,451,355) disclose glass filaments (col 3, ln 5-6) that are sheathed by a layer of

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thermoplastic organic material. This covering can be obtained by extrusion (col 1, ln 50-53). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used Boissonnat's extrusion method on Newman's coated glass scrim, motivated by the desire to obtain a glass scrim that is completely coated by the polymeric binder.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C Ruddock whose telephone number is 703-305-0066. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

UCR *UCR*
August 25, 2002

Ula Ruddock